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- (71) Applicant (for all designated States except US): **COGNITENS LTD.** [IL/IL]; 55 Hanevim Street, P.O. Box 1713, 47282 Ramat Hasharon (IL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **ALBECK, Dan** [IL/IL]; 35 Hazeitim Street, 54011 Giv'at Shmuel (IL). **SEGEV, Avner** [IL/IL]; 5 A Katzin Street, 43241 Raanana (IL). **SHALOM, Tamir** [IL/IL]; 9 Rav Ashi Street #71, 69395 Tel Aviv (IL).
- (74) Agent: **REINHOLD COHN AND PARTNERS**; P.O. Box 4060, 61040 Tel Aviv (IL).

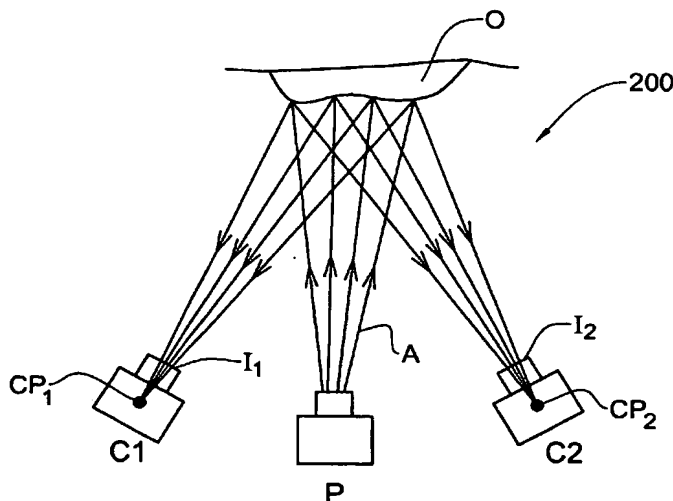
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(54) Title: METHOD AND SYTEM FOR THE THREE-DIMENSIONAL SURFACE RECONSTRUCTION OF AN OBJECT



(57) Abstract: A method for reconstructing 3D surface structure of an object uses a two stage approach. In the first stage, a first set of images is obtained, and a spatial coding technique, such as a random grid, is used for correspondence mapping of coordinates from a first image to a second image of an object, and the images are obtained at different angles with respect to the object. In the second stage, a second structured illumination, typically comprising a striped grid, is used to obtain a second set of images, typically comprising two further images of the object. The mapping provided by the first stage provides proper labeling of the grid between these two images of the second set, and enables accurate matching of elements between these images. Triangulation or epipole methods can then be used for obtaining the 3D coordinates of the surface being reconstructed.

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